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CITIZEN SOLDIERS

by DAVID I. VERWAY, *Research Professor, Division of Research, Graduate School of Business Administration, Michigan State University*

Troop strength of the Michigan Army National Guard totaled 10,451 at the end of 1980. These men and women train in fifty-one regional armories, at Camp Grayling, Custer Reserve Forces Training Site, or elsewhere. For example, Company F (Ranger), 425th Infantry of Pontiac, might be sent into a Puerto Rican jungle for a weekend of reconnaisance practice. In addition to forty-eight weekend training assemblies each year, of at least four consecutive hours each, units must complete a minimum of fifteen consecutive days training annually. Most Michigan guard units participate in exercises conducted each summer at Camp Grayling, although some may train at other guard bases or at army bases in this country or overseas. The Michigan Army National Guard belongs to the 46th Infantry Brigade (3,226 people, headquarters Wyoming), the 46th Engineer Group (1,871, Flint), the 177th Military Police Group (1,227, Detroit), the 72d Support Brigade (3,491, Lansing), the Michigan Army National Guard Headquarters (291, Lansing), and the Michigan Army National Guard Training Site (345, Grayling).

The Michigan Air National Guard was 2,300 strong at the end of 1980. The 110th Tactical Air Support Group at Battle Creek had 691 men and women, the 191st Fighter Interceptor Group at Mt. Clemens had 793, and the 127th Tactical Fighter Wing at Mt. Clemens had 738. There were 27 men and women at the headquarters of the Michigan Air National Guard in Lansing, 37 at the Air National Guard Site Detachment in Alpena, and 14 at the Michigan Air National Guard Headquarters Detachment in Mt. Clemens.

Except when mobilized by the president, the governor is the commander in chief. The overriding mission of the guard is training for combat readiness. The governor has mobilized the guard to provide various kinds of assistance, as during the tornado disasters in Flint and Port Huron in 1953 or to maintain law and order and protect lives and property during the Detroit riots of 1967. Governor Stevens T. Mason (of Michigan Territory) sent the guard to the "Toledo War" in September 1835.

Potential annual income for the new private amounts to $1,052.73, that for a seasoned sergeant, $3,822.84. Guard officers can earn from $1,941.00 to $5,769.54 on weekend and annual training.

FACILITIES OF THE GUARD

Rasmus Hanson, a lumber baron, donated 18,000 acres of land to the State of Michigan in 1913 to be used for guard training. Previously, training took place at various sites in and outside Michigan. Customarily, cities vied for the privilege. For example, the annual encampment was held at Camp Duffield, outside Ludington, in 1912 and in Port Huron in 1911. It seems worth mentioning that the field inspection of the Port Huron camp was conducted by Captain Douglas MacArthur on behalf of the U. S. Army.

Camp Grayling now encompasses 121,000 acres. The main camp, on Lake Margrethe, has headquarters buildings, mess halls, barracks, a dispensary, storage facilities, and so forth. Most infantry training is con-

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ducted at the 45,000 acre South Camp, which has mortar and small arms ranges and an excellent terrain for that purpose. Tank, helicopter, artillery, and Air National Guard air to ground ranges are located in the 75,000 acre North Camp, considered to be one of the finest such training sites in the country because of its vast, unimpeded ranges. Camp Grayling Military Reservation is operated by a permanent party of military personnel and civilians. During 1980, units of the Michigan, Ohio, Indiana, Wisconsin, and Louisiana guard trained there. Canadian militia, U. S. Naval Reserve, and Air Force (Reserve) Rescue units also used the facilities.

Grayling Army Airfield is located off the reservation near the city of Grayling. The Mobilization and Training Equipment Site (MATES) is a separate part of the airfield. MATES, operated by the Michigan guard with the assistance of sixty-nine federal technicians and three night watchmen, maintains equipment belonging to the Michigan, Ohio, and Indiana Army Guard. Because the U. S. military establishment is short of armored carriers and trucks, this pooling of equipment is essential for exercises of batallion scale. Michigan's armored units (Dowagiac, St. Joseph, Manistee, Cadillac, and Three Rivers) could not train as a batallion without Ohio and Indiana equipment to complement their own. Without that concentration, Ohio and Indiana would not send their guard units here for annual training. They would go to Fort Knox, Kentucky, or elsewhere. (Ohio has no sizable guard camp. Camp Atterbury in Indiana is inadequate for batallion-scale artillery and armored exercises such as those that can be accommodated at Camp Grayling.)

Phelps Collins in Alpena is to the Air National Guard what Camp Grayling is to the Army National Guard. Thirty-six federal and twenty-nine Michigan civil service employees operate this site. Guard units from Michigan and other states use it, as do personnel from the U. S. Air Force, Air Force Reserve, Marine Corps Reserve, and Navy Reserve.

Custer Reserve Forces Training Site, near Battle Creek, also operated by the Michigan guard, is an ideal facility for weekend training for nearby Michigan and Indiana guard. The Michigan Military Academy, housed there, is the principal source of Michigan guard second lieutenants.

Selfridge Air National Guard Base is operated by fourteen Michigan officers supported by all five branches of the U. S. military establishment and their reserves. More than 2,700 full-time government civilian and military personnel work there.

Other facilities in the state include the Battle Creek Air National Guard Base, the Grand Ledge Army Aviation Support Facility (helicopters), the Lansing Combined Support Maintenance Shop, and the Lansing United States Property and Fiscal Office. Armories range in size from the Detroit Artillery Armory, 493,712 square feet, to the Three Rivers Armory, 8,908 square feet. The typical armory has two federal employees, who manage and maintain equipment, and a custodian paid by the state.

FINANCING

The Michigan Air National Guard is totally federally funded. During the 1980 fiscal year, Washington sent more than $37 million for the support of Michigan's Air National Guard and three airbases.

The state bears part of the cost of funding the Army National Guard by providing civil servants as support personnel; by supplying heat, light, and utilities at armories and several other facilities; and by participating in the funding of new armories. Except when mobilized by the state, the costs of military pay and allowances are borne by the federal government. During 1980, the Michigan Army National Guard spent more than $30 million in federal and $12 million in state funds. Of this latter, $3.9 million was reimbursed by the federal government, and $900,000 was recovered in armory rental revenue. In other words, during 1980, it cost in excess of $80 million to maintain Michigan Army and Air National Guard units, of which the state contributed $7.7 million from the general fund.

RESULTS OF A SURVEY

During summer 1980, the Grayling Area Chamber of Commerce queried local uniformed military personnel. The survey was not a random sample in the statistical sense, but a catch-as-catch-can poll of people in unrestricted areas both on and off the base. Involved were 196 people from the Indiana encampment, 165 from Ohio, 273 from Michigan, and 43 others. Thirty-five were female.

Most of those surveyed (591) did not bring their families; most (582) did not go home during the middle week of their two-week stay; most (570) lived at the camp; and most (565) did not do their own cooking.

To the question "Do you shop the local stores?" 495 responded yes. Variety, gift, and party stores were the most popular. About 500 also patronized local restaurants, and 430 went to local taverns.

Only 50 respondents found the local inhabitants unfriendly or discourteous. Transportation was considered inadequate by 224. More than 400 have or would like to come to the Grayling area at times other than during training periods.

The survey revealed that guard personnel spent an average of $200 during a two-week encampment at the base. Since about 20,000 people trained at Camp Grayling last summer, it is estimated that $4 million in outside money was poured into the local economy as a result.

Full-time military and civilian government payrolls amounted to $3.2 million in 1980. Assuming that about one-third of that income was spent locally, the base was responsible for total consumer expenditures in the Grayling area of approximately $5 million. It is estimated that these dollars created 150 summer jobs, or about 6 percent of employment in the private sector of Grayling's nonmanufacturing economy last summer.

Merchants recognize the value of the base, according to a companion survey. Almost all (156 out of 159 surveyed) stated that Camp Grayling is a local asset, and nearly all (146) reported serving guard customers. Business increased for 109 respondents during guard training. Only three merchants reported no increase. (Forty-seven had no comment.)

Finally, among tourists queried in last summer's survey, 14 percent (22 out of 152) stated that their first visit to the area was related to guard training.

CONCLUDING REMARKS

The guard is not only a reserve force available at no fixed cost to the state, but also important to the nation's defense. Nationally, there are about 400,000 Army and Air National Guard. In comparison, there are about 2.2 million military personnel on full-time active duty in the U. S. armed forces. Some guard units, it is claimed, are better prepared for hostilities than are many active duty units, and at a fraction of the cost.

The Chamber of Commerce study demonstrates that Camp Grayling is an economic asset to the state, particularly to the city of Grayling. Success in marketing the base to units in other states depends more than anything else on its being well equipped. Michigan's congressmen and senators can be instrumental in this effort by attuning themselves to the situation and to the political intricacies of meeting the need for equipment, structures, and other improvements. Grayling is a bargain in comparison with the cost of maintaining a standing army.

The study also reveals that the Grayling area is lacking in transportation. It is a thinly populated summer resort designed to appeal to canoers, fishermen, and hikers, in short, outdoor enthusiasts who drive there and camp or stay in motels. Perhaps the local dial-a-ride is poorly advertised, or the guard should provide a scheduled shuttle.

There is evidence of some dissatisfaction with the leisure activities available. A survey on this matter alone probably should be undertaken. It might be worth resurrecting Bear Mountain, an amusement park that flourished during the 1960s. The park would enhance the attraction of the area to tourists as well as to the guard.

TABLE 1
The Results of a Guard Survey in the Grayling Area: Summer 1980

Item	*Michigan*	*Indiana*	*Ohio*	*Total*
Number responding	273	196	165	677
Did you attend the annual Camp Grayling training during 1979?				
Yes	208	118	107	438
No	65	76	58	237
What means of transportation did you use to come this year?				
Private	173	83	81	342
Military	90	111	81	312
Public	0	0	0	0
Other	10	2	3	23
Did you bring your family with you?				
Yes	30	24	31	85
No	243	171	134	591
Number in family–				
Responded to this question	29	24	31	84
Average no. in families of those responding	2	2	3	2
Average length of stay of families of those responding	13	12	13	13
Laundry facilities–				
Camp	71	10	27	122
Don't know yet	0	15	2	18
None	52	54	15	126
Own	4	1	6	12
Town	132	67	109	318
Do you go home during the middle weekend of annual training?				
Yes	52	13	14	80
No	210	180	151	582
What accommodations are you using?				
Camp	227	174	129	570
Parks	23	12	22	57
Rental	16	9	14	42
Do you do your own cooking?				
Yes	44	31	30	108
No	229	164	134	565
Do you patronize our restaurants?				
Yes	203	142	132	504
No	70	53	33	172
Do you shop the local stores?				
Yes	215	126	133	495
No	58	70	32	182
If yes, what type of stores?				
Drug store	24	14	6	44
Clothing store	20	11	16	51
Gift store	41	25	58	130
All kinds	49	31	33	115
Variety store	104	43	67	227
Party store	64	15	19	102
Sports store	25	7	9	42
If no, why not?				
No need	30	17	21	83
Too expensive	9	18	7	36
No time	6	3	2	11
Other	7	5	2	15
Do you patronize the local taverns?				
Yes	199	104	105	430
No	74	91	60	246
What kind of music do you prefer?				
Rock	128	53	64	253
Country western	63	50	56	18.
Disco	8	7	11	31
Other	12	16	10	43
All	58	32	18	114
Do you use dial-a-ride?				
Yes	11	21	5	50
No	262	175	160	627
Do you attend a church while here?				
Yes	56	26	19	109
No	217	170	146	568
Do you patronize the local theater?				
Yes	78	66	53	218
No	195	130	112	459
Do you use the parks?				
Yes	67	69	56	218
No	206	127	109	467
Do you use the library?				
Yes	17	9	7	44
No	256	187	158	633
Do you use the canoe facilities?				
Yes	105	79	69	269
No	168	117	96	408
Are you active in any sports while here?				
Yes	176	92	91	379
No	97	104	74	298
If so, which ones?				
Post facilities	121	71	60	267
Fish	47	13	22	87
Canoe	15	2	3	28
Swim	36	6	38	74
Other	16	10	3	31
Golf	10	6	0	17

(Continued on page 6)

The MICHIGAN STATE ECONOMIC RECORD

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Michigan Economic Indicators

Item	Year previous of latest month	Previous month	Latest month
Manufacturing workers:			
Average weekly hours, Michigan	40.2	39.1	41.0 (Mar.)
Average weekly hours, U.S.	39.8	39.5	39.9 (Mar.)
Average hourly earnings, Michigan ($)	9.34	10.11	10.23 (Mar.)
Average hourly earnings, U.S. ($)	7.06	7.74	7.79 (Mar.)
U.S. motor vehicle production (units)	638,815	807,352	804,031 (Mar.)
Michigan electricity usage (mil. kwh.)	5,886	6,296	5,718 (Feb.)
Industrial (mil. kwh.)	2,693	2,357	2,624 (Feb.)
Residential (mil. kwh.)	1,847	2,382	1,786 (Feb.)
Raw steel production:			
Michigan (000 net tons)	828	702	827 (Mar.)
United States (000 net tons)	11,439	10,028	11,774 (Mar.)
Consumer price index (1967 = 100)			
Detroit area	248.2	268.2	272.4 (Apr.)
United States	242.5	265.1	266.8 (Apr.)
U.S. wholesale price index (1967 = 100)	263.7	292.8	293.4 (May)
Michigan farm prices received index (1967 = 100)	226	260	264 (Apr.)

SOURCES: U.S. Bureau of the Census; U.S. Bureau of Labor Statistics; Michigan Crop Reporting Service; Motor Vehicle Manufacturers Association, Inc.; American Iron and Steel Institute; and Energy Information Administration.

Contracts for Future Building, First 3 Months: 1980 and 1981

(Thousands of Dollars)

Area	Nonresidential			Residential			Total[a]		
	1980	1981	Percentage change	1980	1981	Percentage change	1980	1981	Percentage change
Ann Arbor	38,179	11,747	− 69	5,558	10,960	+ 97	43,737	22,707	− 48
Battle Creek	2,236	4,334	+ 94	1,742	2,480	+ 42	3,978	6,814	+ 71
Bay City	826	1,843	+123	5,489	1,165	− 79	6,315	3,008	− 52
Detroit	169,528	200,965	+ 19	137,838	90,517	− 34	307,366	291,482	− 5
Flint	23,022	12,684	− 45	6,632	8,759	+ 32	29,654	21,443	− 28
Grand Rapids	61,494	20,110	− 67	28,857	20,823	− 28	90,351	40,933	− 55
Jackson	4,665	7,483	+ 60	2,188	4,834	+121	6,853	12,317	+ 80
Kalamazoo-Portage	6,967	9,883	+ 42	9,266	10,395	+ 26	15,233	20,278	+ 33
Lansing–East Lansing	27,027	10,277	− 62	19,238	18,440	− 4	46,265	28,717	− 38
Muskegon–Norton Shores–Muskegon Heights	1,009	1,032	+ 2	4,112	7,103	+ 73	5,121	8,135	+ 59
Saginaw	5,727	1,069	− 81	5,794	4,965	− 14	11,521	6,034	− 48
Toledo	24,737	23,774	− 4	24,423	41,377	+ 69	49,160	65,162	+ 33
Michigan	363,545	303,114	− 17	274,578	230,055	− 16	638,123	533,169	− 16
United States	4,052,600	5,345,400	+ 32	4,434,900	5,929,000	+ 34	8,484,500	11,274,400	+ 32

SOURCE: F. W. Dodge Division of McGraw-Hill Information Systems Company, news releases.

NOTE: Battle Creek includes Barry and Calhoun counties; Detroit includes Lapeer, Livingston, Macomb, Oakland, St. Clair, and Wayne counties; Flint includes Genesee and Shiawassee counties; Grand Rapids includes Kent and Ottawa counties; Kalamazoo-Portage includes Kalamazoo and Van Buren counties; Lansing–East Lansing includes Clinton, Eaton, Ingham, and Ionia counties; and Muskegon–Norton Shores–Muskegon Heights includes Muskegon and Oceana counties.

a. Excludes nonbuilding construction contracts. This category comprises streets and highways, bridges, dams, reservoirs, river and harbor developments, sewerage and water supply systems, missile and space flight facilities, airports, utilities, and communication systems. For Michigan the 1980 and 1981 figures for nonbuilding construction contracts were $168,545,000 and $163,877,000 respectively, or a decrease of 3 percent. U. S. figures for nonbuilding construction contracts were $2,457,700,000 and $2,629,800,000 or an increase of 7 percent.

Quarterly Motor Vehicle Employment and Assembly

Item	1978		1979				1980				1981
	3	4	1	2	3	4	1	2	3	4	1
EMPLOYMENT[a]											
Checker											
Michigan	1,084	1,140	1,207	1,194	1,182	1,099	982	803	735	882	921
Chrysler											
Michigan	75,187	81,664	75,316	70,238	58,182	55,456	47,273	43,235	40,733	44,452	36,921
United States	125,989	135,997	125,899	118,532	99,754	98,228	86,341	78,908	73,248	80,321	68,024
Ford[b]											
Michigan	126,300	135,377	132,298	129,526	117,630	111,790	104,321	92,458	86,528	100,033	95,231
United States	233,314	253,536	245,253	240,054	211,763	196,038	181,595	160,226	144,068	172,827	160,595
General Motors											
Michigan	267,000	289,000	295,000	296,000	291,000	288,000	267,000	237,000	220,000	253,000	256,000
United States	594,000	643,000	644,000	650,000	582,000	602,000	561,000	499,000	469,000	538,000	535,000
ASSEMBLY											
Dearborn	39,072	83,017	96,572	92,774	85,970	68,819	65,971	70,823	49,852	54,856	29,179
Detroit	54,857[c]	89,563[c]	130,475[c]	113,866[c]	56,399[c]	78,055[c]	57,044[c]	40,016[c]	32,540[c]	102,410[c]	109,906[c]
Detroit (truck)	11,142	30,753[c]	33,693[c]	28,503[c]	12,861[c]	16,534[c]	14,812[c]	5,865	1,687	4,717	7,778
Flint	76,157	109,192	115,405	110,135	56,914	90,222	69,179	65,568	54,201	71,213	74,914
Flint (truck)	103,549	104,839	114,846	95,075	60,985	75,541	70,123	19,975	12,605	68,449	57,829
Hamtramck	56,808	54,230	44,901	62,806	13,345	30,134	1,031[c]	c	c	c	c
Kalamazoo	809	1,019	1,134	1,268	1,203	1,161	770	810	762	855	628
Lansing	62,327	116,726	130,644	130,363	72,684	96,143	104,913	82,558	56,769	85,367	91,196
Pontiac	61,666	82,652	91,712	85,977	46,578	61,082	50,974	30,102	26,077	39,831	30,439
Pontiac (bus & truck)	61,741	72,398	77,144	73,922	51,628	42,135	33,850	24,376	21,831	21,295	26,584
Warren (bus & truck)	72,181	84,504	76,365	48,873	5,027	19,043	14,783	28,537	16,498[R]	17,363	17,735
Wayne	63,214	55,607	50,477	46,765	34,081	28,800	27,840	37,401	24,039	67,854	74,448
Wayne (truck)	48,390	52,388	56,052	51,994	21,305	34,256	25,355	7,751	11,890	21,362	18,014
Wixom	36,508	46,902	51,132	36,527	20,013	32,604	8,724	6,896	15,393	19,914	13,695
Ypsilanti	57,178	38,891	38,797	75,420	73,508	70,507	84,598	83,147	66,919	78,277[R]	79,205
Total Michigan											
Passenger car	508,596	654,346	751,250	755,901	462,695	557,527	471,044	417,321	326,552	520,577[R]	503,610
Bus and truck	297,003	368,325	358,100	298,367	151,806	187,509	158,923	86,504	64,511	133,186	127,940
Total United States											
Passenger car	1,850,701	2,398,411	2,411,307	2,482,907	1,655,546	1,884,756	1,783,732	1,632,826	1,259,897	1,697,792	1,553,901
Bus and truck	851,998	982,232	1,024,655	916,996	529,092	564,118	499,525	350,607	307,817	476,234	449,288
Total Canada											
Passenger car	229,593	297,157	307,823	281,806	171,427	227,966	225,969	228,428	162,183	228,393	185,206
Bus and truck	120,199	180,355	200,162	190,698	107,988	135,532	146,015	136,314	95,798	144,764	143,080

SOURCE: Ward's *Automotive Reports;* Motor Vehicle Manufacturers Association of the United States, Inc., P-I report; and companies.

a. Average monthly wage and salary employment of companies with assembly plants in Michigan; includes nonautomotive.

b. Excludes Ford Aerospace and Communications Corporation and finance and insurance subsidiaries.

c. Chrysler's Jefferson Avenue plant was converted to truck production in September 1978. It was returned to car production in August 1980 after having been closed since March 1980. Chrysler's Hamtramck plant closed January 4, 1980.

R: Revised.

(Continued from page 3)

TABLE 1 (Cont.)

Item	Michigan	Indiana	Ohio	Total
Do you buy the local newspaper?				
Yes	107	54	29	204
No	165	141	136	471
Do you feel Grayling provides enough activities for—				
Children?				
Yes	151	59	91	303
No	32	28	18	85
Don't know	90	109	56	286
Teenagers?				
Yes	142	59	88	295
No	42	32	19	100
Don't know	89	105	58	282
Adults?				
Yes	186	81	86	363
No	35	35	33	113
Don't know	52	80	46	201
Do you find people friendly and courteous?				
Yes	241	175	146	597
No	22	14	10	50
Don't know	10	7	9	30
What activities do you like best in Grayling?				
No time for them	2	1	2	5
Nothing	12	24	8	47
Partying	8	14	12	37
Camping	17	8	15	41
Fishing	28	3	14	48
Relaxing on beach	85	39	75	213
Other	93	77	44	230
Do you feel there is adequate transportation in the area?				
Yes	147	103	67	334
No	81	67	57	224
Don't know	37	21	36	100
Have you made any friends in Grayling?				
Yes	197	86	84	383
No	75	109	81	293
Would you, or do you, come to Grayling at times other than training?				
Yes	213	100	85	417
No	57	94	80	255
If yes, in what season?				
Spring	11	8	6	20
Summer	59	43	37	151
Fall	72	23	34	131
Winter	34	33	20	88
All	87	5	14	109
If no, why not?				
Distance	6	50	32	100
Too expensive	12	6	10	28
Don't want to	41	27	37	115
Don't know	0	6	1	7
What added business would you like to see in Grayling?				
Adequate	99	71	61	240
Don't know	35	59	39	154
K-Mart	28	5	24	57
Burger King	6	4	3	13
Kentucky Fried Chicken	7	4	8	19
Gym	17	4	1	25
Pool hall	8	13	4	27
Other	77	35	38	156
What added services would you like to have in Grayling?				
Adequate	121	84	69	281
Transportation	55	10	37	109
Don't know	45	47	39	147
Information	23	17	9	55
Other	23	22	10	61
Prostitution	14	3	2	10
What do you miss from home that you can't have here?				
Family	73	88	87	274
Friends	38	23	16	79
Car	14	5	8	34
T.V.	8	5	8	22
Other	34	19	10	66
Nothing	102	40	43	190
Everything	9	2	1	13
Don't know	6	7	1	14
How much money did you, and your family, spend in the Grayling area?				
Responded to this question	270	187	163	657
Average expenditures among those responding	$207	$167	$197	$194

The Toledo War

The following official version of the Toledo War, described as "An Ohio Idea," was published in Adjutant General Jno. Robertson's Michigan in the War, *rev. ed. (Lansing: W. S. George & Co., State Printers and Binders, 1882), pp. 1028–32. Most of the book is about the Civil War. It seems worth pointing out that the list of officers who participated in the Toledo War includes Alpheus Felch, Aide-de-camp. Felch was later governor of and U. S. senator from Michigan.*

Also included below is material on Harper Hospital from pp. 115–16.

What is known as the Toledo War was one of a very peculiar and harmless character, beginning in perspective and ending without collision, fight, or casualty; yet exhibiting on the start on both sides a maximum of bombastic threatenings, prospective of possible coming war, with bloody battles and direful consequences, and although it brought out on the part of Michigan the most formidable military demonstration incident to a dispute, between States as to territory occurring in the United States, it ended in a wordy peace, which has resulted in handing down the whole affair, both civil and military, in undeserved traditional and written ridicule.

In the beginning of 1835 the State of Ohio undertook to enforce jurisdiction over certain territory south of the Maumee Bay, which was then considered as a portion of Michigan Territory, and claimed as such. The legislative council of Michigan on February 12, of that year, passed an act "to prevent the exercise of foreign jurisdiction within the limits of the Territory of Michigan," making it a penal offense for any one to accept or exercise any public office in any part of the Territory, except by commission from the United States, or Michigan. On the 19th of the same month Acting Governor Mason, in a letter of instructions in detail to General Joseph W. Brown, then commanding a division of the Michigan militia, says: "Under existing circumstances but one of two courses is left for Michigan to pursue. If Ohio continues to persevere in the attempt to wrest from us our territory, as she now meditates,—in voluntary submission to encroachment upon our rights, or firm and determined opposition to her,—the latter though painful to us, is preferable to the former, and must be decided upon. With this in view, I have, with due regard to the important task assigned you, concluded to give you the control of the measures necessary to be adopted in

consequence of the peculiar and unpleasant relations which I fear may soon exist between the civil authorities of Ohio and those of this Territory."

General Brown, under the same date, issues the following address to the militia:

"FELLOW CITIZENS,—A cause which has the sanction of the highest authority in the nation, as well as the laws of our Territory, must be sustained by us, and will meet the approbation of all our common country who respect our institutions and who are capable of appreciating the just claims of the injured and weaker party when they are sought to be trodden down and trampled upon by mere physical force. We cannot submit to an invasion of our soil; we are determined to repel with force whatever strength the State of Ohio may attempt to bring into our Territory to sustain her usurpations, and let the consequences which may follow rest on the guilty heads of those who attempt to deprive us by force of our rightful jurisdiction."

On the 23d following the Ohio Legislature asserting the right of that State and declaring that measures should be taken to establish it, Governor Lucas placed a Major General of militia in command, with instructions to enroll the militia of the districts in dispute for the purpose of protection, while running a boundary line which Ohio insisted on accomplishing. The matter of boundary had been laid before Congress, but failed to receive attention, and the acting Governor of Michigan, considering his Territory in possession, ordered General Brown to hold himself in readiness to resist any attempt of Ohio to carry out the threatened measures, the right of Michigan being sustained by the Attorney General of the United States, and also by the President and his advisers. After a futile attempt at conciliation and considerable delay, Ohio still persisting in her claim, the President intimated by letter that if that State attempted running the lines with an armed force he would have to interfere to prevent it by the power of the United States. Still affairs remained quiet, with an occasional difficulty, but without any military demonstration. It was ascertained, however, that in accordance with the views of the Ohio Legislature a new county (Lucas) was to be organized over the disputed territory, and that a court was to be opened at Toledo on the 7th of September, 1835, and that this move was to be protected by Ohio troops. To meet this contemplated action Governor Mason ordered out the Michigan forces, and with them in person moved on Toledo; but on arriving there no opposing force was encountered and he peacefully took possession of the place, holding it for four days, when the Michigan troops, under an order of September 10th, returned and were disbanded at their various rendezvous, not having fired a gun at an enemy nor lost a man.

Ohio finally succeeded by strong political influence in obtaining the disputed ground, but only with what was claimed to have been the consent of Michigan, in lieu of which she received what is known as the Upper Peninsula.

Following is a statement of the officers and troops organized and called out by the Governor to take a part in the boundary quarrel referred to, and who were paid by the State for their services:

Governor, Stevens T. Mason. Staff: Colonels Isaac S. Rowland, Kintsign Pritchette, John Chester.

Major General Joseph W. Brown, commanding; Alpheus Felch, Aid-de-Camp; Charles W. Whipple, Division Inspector; Daniel S. Bacon, Division Quartermaster.

Brigadier General Martin Davis commanding 2d Brigade. E. C. Eaton, Brigade Major; J. E. Field, Brigade Quartermaster; Isaac J. Ullman, Brigade Inspector.

FIRST REGIMENT RIFLES.

FIELD AND STAFF.

J. D. Davis, Colonel; John Beedon, Jr., Major; F. L. Marcham, Surgeon; Peter Fralick, Paymaster; H. A. Noyes, Adjutant; Wm. McCurdy, Quartermaster.

COMPANY OFFICERS.

Captains, Albert Stroms, Richard Boughton, Charles M. McCormick, Eli Derby, Emery Richardson, A. D. Crane, James M. Murray, Horace Leek, S. B. Newton (supernumerary in charge of baggage train).

First Lieutenants, Ezra Bradner, Samuel Gates, Isaac Hiscock, Jr., Silas Dickenson, J. S. Lacey, Jacob I. Foot, Jared B. Cornish, Cyrus Burnett.

Second Lieutenants, Enos Bradner, Wm. A. Ballard, Samuel B. Hill, Edwin Bond, Henry B. H. Secord, Harvey Barton, Wm. Brewer, Norman C. Wells.

This command was made up of portions of eight companies, varying in size, and numbering 189 officers and men in the aggregate.

SECOND REGIMENT INFANTRY.

FIELD AND STAFF.

Warner Wing, Colonel; Apulus Drown, Major; Wm. W. Smith, Surgeon; Lewis E. Bradley, Adjutant; Almon H. White, Quartermaster.

COMPANY OFFICERS.

Captains, George W. Darrah, Joseph Morass, Gabriel Bissonette, Heman N. Spalding, Noyes W. Woodworth, John Bradford.

First Lieutenants, Levi Lewis, Francis Cousins, George C. Root, David Hall.

Second Lieutenants, Nelson White, John B. Derby.

Ensigns, James H. Withington, Peter Moran.

The force consisted of parts of seven companies, numbering 131 officers and men.

EIGHTH REGIMENT INFANTRY.

FIELD AND STAFF.

Davis Smith, Colonel; Samuel B. Evans, Lieutenant Colonel; Derastus Torrey, Major; Michael A. Patterson, Surgeon; Alonzo Cressy, Ass't Surgeon; Joseph E. Hall, Adjutant; Sydney F. Blanchard, Quartermaster; Thomas Sisson, Assistant Quartermaster; Hugh Hillock, Assistant Quartermaster.

COMPANY OFFICERS.

Captains, Reuben N. Hall, John Densmore, Peleg Pettis, Horatio N. Baldwin, Ebenezer Davis, Augustus Montgomery, Jedediah Raymond, Milton Hoag.

First Lieutenants, Eli Chatfield, Asa G. Edwards, Guy Carpenter.

Second Lieutenants, Joseph N. Chandler, John J. Adam, Adam Miner, J. Swick, Daniel McRoberts.

Ensigns, Benjamin Tibbetts, Simeon Spencer.

This regiment had eight small companies, 238 strong, in the aggregate.

OAKLAND DETACHMENT.

FIELD AND STAFF.

Frederick A. Sprague, Major; Andrew D. Voorheis, Surgeon; Israel B. Richardson, Surgeon; Benjamin Phelps, Paymaster; John L. Brownell, Quartermaster.

COMPANY OFFICERS.

Captains, Orange Foot, George Brownell, Linus Cone, John W. Ingram, Haron Haskins.

First Lieutenants, Mason I. James, Walter Drake, Nelson Rosevelt, Phineas W. Jenney, Edward W. Peck.

Second Lieutenants, Alanson Goodrich, William Lee, Henry Sprague, Calvin Chapel, Hiram Carhart. Chester Goodrich, Cornet.

This detachment was 180 strong, a portion of it being mounted as cavalry.

BUCKLIN'S DETACHMENT INFANTRY.

FIELD AND STAFF.

James Bucklin, Major; James Dunn, Adjutant.

COMPANY OFFICERS.

Captains, N. P. Thayer, John F. Rupley, James Goodell, Thomas Geldard, Martin Greenman, Asahel L. Bird, Chas. M. Bull, George B. Griswold.

First Lieutenants, Paul Rice, John Thomas, Sheldin Beckwith, Lewis Fuller, Geo. C. Bates, Sidney L. Rood.

Second Lieutenants, Jasper Thomas, Jacob M. Howard, Thomas Dare.

Ensign, Joseph Y. Davis.

This command had an aggregate of 137 officers and men.

SHELBY VOLUNTEERS, ARTILLERY.

Captains, Orson Sheldon, A. White, Erastus Day, J. O. Ferris, N. W. Wadsworth.

Lieutenants, James St. John, Wm. H. Webster, Elias O. Maccall.

Ensigns, Gurdon C. Leech, C. C. Douglass.

This artillery force was made up of gun squads, 57 officers and men.

DETROIT LIGHT DRAGOONS.

First Lieutenant, John Wright; Second Lieutenant, Simeon Brown; Third Lieutenant, James Hanmer.

This company was 20 strong in the aggregate.

LIGHT HORSE.

Captain, Joseph Wood; First Lieutenant, James McBride; Second Lieutenant, Burton Hotchkiss; Stephen Crego, Cornet.

This company numbered 40 officers and men.

Harper Hospital

In 1863, Colonel Charles S. Tripler, surgeon U. S. army, and then U. S. medical director, stationed at Detroit, represented to the Government the absolute necessity for the erection of a general hospital at that point for the reception and care of sick and wounded Michigan soldiers, and urging immediate action in the matter.

In the effort Colonel Tripler had the influence and recommendation of the Governor and military authorities of the State, and was at the same time ably aided in his undertaking by Dr. D. O. Farrand, then assistant surgeon, U. S. army, and Colonel George W. Lee, chief quartermaster in Michigan, and stationed at Detroit.

The authority was, after much correspondence and annoying delays, obtained under an order from the Secretary of War, and under the superintendence of Colonel Lee the work on "Harper Hospital" was commenced early in 1864.

It was made up of eleven one-story buildings, with a capacity for eight hundred patients, and costing about sixty thousand dollars, the use of the grounds being given gratis by the "Harper Hospital Association." Much care had been observed in regard to ventilation, drainage, and superior water arrangements. Opening with an exceedingly capable management, it had soon the reputation of being one of the most complete, comfortable, and best regulated hospitals in the West.

In usefulness it added largely to the already extensive preparation made by the Government for the shelter and care of thousands of Michigan men who, by disease or wounds, had been rendered unfit for service in the field.

On its completion, Dr. Farrand was placed in charge, with Drs. W. A. Chandler, Wm. C. Catlin, E. W. Jenks, and G. W. Fitzpatrick as assistants. Dr. Byron Stanton, a surgeon of volunteers, succeeded Dr. Farrand in the spring of 1865, but he remained but a few weeks, as he accepted a position in an asylum for the insane in Ohio.

Dr. Farrand again assumed charge, continuing on duty until June or July following, when at his own request he was transferred to take charge of the hospital at Fort Wayne, near Detroit, then occupied by U. S. troops.

Succeeding Dr. Farrand, Dr. Wynkoop, a surgeon of volunteers from Philadelphia, was placed in charge, remaining until the close of the hospital, in December, 1865.

The buildings were soon after given by the Government to the trustees of the "Harper Hospital," a corporate body, this association having in contemplation the establishment of a hospital for charitable purposes.

In giving the buildings, the Government made a condition that sufficient accommodation should be at all times afforded for a "Soldiers' Home" for invalid and destitute Michigan soldiers and sailors, and since then it has been in part used for that purpose.

The sick and wounded being very numerous at that time, and a transfer of Michigan men from Eastern hospitals being very desirable, to ensure them more care and the attention of their friends at home, the erection of this hospital was accomplished, and while it was accepted by the people of the State as a most generous recognition by the Government of her great claims for consideration, they will never forget the efforts of those gentlemen to secure it, while the soldiers will in all time hold them in most grateful remembrance.

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COUNTY ECONOMIC PATTERNS

by DAVID I. VERWAY, *Professor, Bureau of Business and Economic Research, Graduate School of Business Administration, Michigan State University*

Corn, beef, and dairy farmers enjoyed a prosperous 1979; that is the principal reason for the favorable economic performances in Ogemaw, Gladwin, Missaukee, and Alcona counties, growth leaders in the state between 1978 and 1979. In Livingston, Kent, Cheboygan, Otsego, and Shiawassee counties, manufacturing provided the impetus. Tuscola, Saint Joseph, and Huron counties benefited from a good year for field crops generally. Data on overall earnings change for Michigan counties are shown in Table 1.

Fruit farming was the nemesis in Leelanau, Berrien, and Newaygo counties, whereas manufacturing was responsible for the poor perform-

TABLE 1

Listing of Michigan Counties According to Growth in Labor and Proprietors' Earnings, by County in Which Earned: 1978–1979

County	Percentage change 1978–1979	County	Percentage change 1978–1979	County	Percentage change 1978–1979
Ogemaw	23	Ingham	13	Mackinac	10
Gladwin	22	Lenawee	13	Alger	10
Missaukee	20	Antrim	12	Houghton	10
Alcona	19	Washtenaw	12	Oceana	9
Livingston	18	Branch	12	Oscoda	9
Kent	17	Hillsdale	12	Saginaw	9
Cheboygan	16	Osceola	12	Calhoun	9
Otsego	16	Wexford	12	Bay	9
Tuscola	16	Eaton	12	Monroe	9
St. Joseph	16	Midland	12	Lake	9
Shiawassee	16	Gogebic	12	Lapeer	8
Huron	15	Schoolcraft	12	Montcalm	8
Ottawa	15	Ontonagon	12	Iosco	8
Oakland	15	Allegan	11	Ionia	7
Presque Isle	15	Benzie	11	Macomb	7
Dickinson	15	Alpena	11	Genesee	7
Sanilac	14	Mecosta	11	Wayne	7
Clare	14	Muskegon	11	Gratiot	7
Mason	14	Kalkaska	11	Newaygo	6
Barry	14	Luce	11	Berrien	6
Kalamazoo	14	Delta	11	St. Clair	6
Roscommon	14	Iron	11	Chippewa	6
Arenac	14	Marquette	10	Montmorency	5
Clinton	13	Van Buren	10	Keweenaw	5
Grand Traverse	13	Baraga	10	Crawford	−4
Charlevoix	13	Isabella	10	Leelanau	−7
Menominee	13	Manistee	10	Michigan	10
Emmet	13	Jackson	10	United States	12

SOURCE: Bureau of Economic Analysis, Regional Economics Information System.

NOTICE

Effective 30 June, the Bureau of Business and Economic Research at Michigan State University will be dissolved. THE MICHIGAN STATE ECONOMIC RECORD no longer will be published by the Graduate School of Business Administration here.

I wish to express deepest appreciation to our readers and authors who have contributed to the high quality of this publication through the years. It is with regret that we say this final good-bye.

Richard J. Lewis, Dean
Graduate School of Business Administration

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ance in Crawford, Keweenaw, Montmorency, Chippewa, Gratiot, Cass, and Ionia counties. Wayne, Genesee, and Macomb counties experienced all-around sluggishness because of their heavy emphasis on the automotive sector.

Bureau of Economic Analysis (BEA) county earnings estimates are developed from reports that employers file with state employment agencies and from tax returns filed with the Internal Revenue Service. Total earnings are comprised of labor income and the net incomes of nonincorporated business enterprise, such as proprietary motels, restaurants, and grocery stores, as well as the business of professionals, such as physicians, dentists, lawyers, and trade contractors. These data are the best available yardsticks of economic activity taking place in counties, although they are not as comprehensive as gross national product accounts for the United States.

Table 2 has been prepared to highlight the importance of goods production in Michigan counties. Except for Midland and Manistee, where the manufacture of chemicals is a dominant force, the top ten counties in manufacturing owe their positions to the automotive industry and its suppliers. Several northern counties top the list in construction activity. Except for Midland, where Consumers Power Company is building a nuclear reactor, residential construction is predominant due to an influx of new residents, particularly from southeast Michigan. Mining activity is vital to a few counties in the Upper Peninsula and to Kalkaska, which is a focal point in the production of natural gas. Two plants in Kalkaska process much of the gas produced in northern Michigan.

The counties, other than Oakland, listed in the first two columns in the top panel of Table 3 are ones in which

TABLE 2

Analysis of Personal Income in Goods Producing Industries in Michigan Counties: 1978–1979

Agriculture			Manufacturing			Construction			Mining		
County	*Dependency*[a]	*Growth 1978–1979*[b]	*County*	*Dependency*[a]	*Growth 1978–1979*[b]	*County*	*Dependency*[a]	*Growth 1978–1979*[b]	*County*	*Dependency*[a]	*Growth 1978–1979*[b]
Ten most dependent counties											
Missaukee	28.82	23	Genesee	59.16	5	Kalkaska	18.71	10	Ontonagon	50[c]	n.a.
Huron	21.29	27	Midland	54.32	12	Midland	18.13	8	Presque Isle	35[c]	n.a.
Sanilac	21.27	67	Saginaw	53.75	5	Montmorency	14.73	8	Marquette	25[c]	n.a.
Oceana	18.90	−20	St. Joseph	52.16	11	Alcona	14.65	1	Kalkaska	20[c]	n.a.
Cass	17.31	73	Macomb	52.08	2	Benzie	12.25	18	Schoolcraft	17[c]	n.a.
Clinton	16.57	35	Lenawee	49.15	9	Iron	12.16	10	Mackinac	15[c]	n.a.
Leelanau	14.60	−49	Manistee	48.00	10	Cheboygan	12.05	9	Dickinson	10[c]	n.a.
Tuscola	13.70	80	Berrien	47.47	5	Leelanau	10.50	−2	Isabella	7.25	11
Gratiot	13.19	17	Wayne	47.11	5	Ottawa	10.46	32	Iron	3[c]	n.a.
Arenac	12.70	46	Muskegon	46.43	9	Gr. Traverse	9.68	18	Chippewa	2[c]	n.a.
Ten least dependent counties											
Crawford	0	—	Presque Isle	3.09	8	Ontonagon	1.70	D	Alger	0	0
Keweenaw	0	—	Marquette	3.46	23	Luce	1.77	−3	Baraga	0	0
Wayne	.02	−3	Chippewa	3.69	−6	Keweenaw	2.00[c]	n.a.	Benzie	0	0
Oakland	.05	−4	Lake	4.33	n.a.	Lenawee	2.69	6	Branch	0	0
Marquette	.13	—	Luce	4.55	12	Cass	2.75	−8	Keweenaw	0	0
Genesee	.17	−4	Mackinac	4.85	15	Arenac	2.83	11	Lake	0	0
Macomb	.25	−4	Leelanau	6.60	−4	Washtenaw	3.01	10	Luce	0	0
St. Clair	.33	−79	Houghton	6.92	5	Sanilac	3.05	5	Menominee	0	0
Roscommon	.37	—	Keweenaw	7.33	−14	Schoolcraft	3.06	−6	Oscoda	0	0
Alpena	.55	373	Missaukee	7.59	17	Hillsdale	3.15	10	Alcona	.10[c]	n.a.
Ten fastest growing counties											
Chippewa	1.67	888	Isabella	6.41	35	Benzie	24.61	36	D		
Emmet	2.03	675	Gratiot	3.88	33	Otsego	23.33	26	D		
Mackinac	1.28	456	Ottawa	10.46	32	Cheboygan	27.81	25	D		
Iosco	1.28	433	Montcalm	4.74	28	Ogemaw	24.39	25	D		
Dickinson	1.41	424	Kalamazoo	5.77	24	Oceana	17.52	24	D		
Clare	3.66	387	Ionia	3.48	24	Marquette	3.46	23	D		
Alpena	.55	373	Lapeer	5.69	23	Emmet	17.11	22	D		
Charlevoix	1.97	224	Jackson	4.80	23	Gladwin	22.05	22	D		
Presque Isle	5.94	220	Muskegon	7.16	22	Kent	39.73	22	D		
Ogemaw	7.95	204	Van Buren	9.16	20	Alcona	23.40	21	D		
Michigan	1.17	30	Michigan	4.87	10	Michigan	42.54	7	Michigan	.22	78
U.S.	2.52	18	U.S.	6.11	13	U.S.	26.11	12	U.S.	.42	93

SOURCE: Bureau of Economic Analysis, Regional Economics Information System.
a. Earnings in this sector as a percentage of total labor and proprietors' earnings in 1979.
b. Percentage change in labor and proprietors' earnings in this sector.
c. Estimated by the author.
D. Data not available for several important mineral producing counties.
n.a.: not available.

tourism is important to the local economies. The services and trade industries responsible for those high rankings include lodgings, restaurants, gasoline service stations, and party stores. The distinguishing factor in the third column is the presence of electric generating equipment or headquarters of utility companies. In the fourth column, Livingston, Lake, Gladwin, Roscommon, Missaukee, and Montmorency counties have high levels of real estate activity, whereas Oakland, Calhoun, Grand Traverse, and Houghton counties are financial centers in their areas.

The proportion of earnings derived from wholesale trade (not shown in Table 3) was greatest in Dickinson County (9.3 percent), followed by Oakland (9.1 percent) and Kent (8.2 percent). The federal government was the dominant factor in Keweenaw (41.6 percent) and Iosco (37.5 percent), and a combination of state and local government was dominant in Luce (69.6 percent) and Mecosta (42.5 percent). Keweenaw County has an Air Force radar station near its northern tip, Iosco hosts Wurtsmith Air Force Base, Luce is the home of Michigan's Newberry Regional Health Center, and Ferris State College is located in Mecosta County.

RESIDENCE ADJUSTMENT

The numbers in Tables 1 through 3 focus on economic activity taking place within counties, regardless of where the earnings recipients live. To calculate income received by persons, by county, the BEA has developed residence adjustments. For example, in 1978, residents of other counties earned $18,347,000 more in Ontonagon than Ontonagon residents earned elsewhere (see Table 4). That figure constitutes more than one-third of total earnings generated in the county. Others exporting a large percentage of earnings or, what amounts to the same thing, importing a large percentage of labor, are Ingham, Washtenaw, and Midland. Although Wayne ranks fifth in the

TABLE 3
Analysis of Personal Income in Selected Nongoods Producing Industries in Michigan Counties: 1978–1979

Selected services			Retail trades			Transportation and public utilities			Finance, insurance, and real estate		
County	*Dependency*[a]	*Growth 1978–1979*[b]	*County*	*Dependency*[a]	*Growth 1978–1979*[b]	*County*	*Dependency*[a]	*Growth 1978–1979*[b]	*County*	*Dependency*[a]	*Growth 1978–1979*[b]
Ten most dependent counties											
Emmet	29.62	13	Clare	21.64	10	St. Clair	15.27	15	Livingston	7.02	10
Leelanau	25.32	11	Missaukee	20.68	26	Jackson	12.94	10	Lake	6.54	4
Crawford	25.03	9	Roscommon	20.53	8	Monroe	12.17	18	Oakland	6.14	14
Oakland	20.79	14	Lake	19.59	20	Chippewa	11.59	5	Calhoun	5.58	n.a.
Gr. Traverse	20.62	15	Mackinac	18.85	11	Shiawassee	10.79	23	Gladwin	5.43	15
Mackinac	19.60	10	Crawford	18.84	16	Alpena	10.15	29	Roscommon	5.14	7
Wexford	17.16	16	Ogemaw	17.86	25	Houghton	10.00[a]	n.a.	Gr. Traverse	4.95	18
Baraga	16.85	27	Cheboygan	17.73	9	Delta	9.84	15	Missaukee	4.81	15
Otsego	16.64	32	Montmorency	17.43	4	Mason	9.39	19	Houghton	4.78	−19
Clare	16.53	24	Arenac	16.97	8	Dickinson	8.61	14	Montmorency	4.65	38
Ten least dependent counties											
Ontonagon	5.20	27	Midland	5.23	8	Keweenaw	1.00[a]	n.a.	Kalkaska	.50[c]	n.a.
Kalkaska	5.48	12	Washtenaw	6.29	9	Montmorency	1.35	13	Alcona	.95	n.a.
Menominee	6.11	1	Genesee	6.79	7	Antrim	1.57	20	Keweenaw	1.00[c]	n.a.
Montmorency	6.16	19	Ontonagon	7.16	10	Osceola	1.65	21	Midland	1.34	12
St. Joseph	6.42	14	Wayne	7.29	6	Leelanau	1.77	24	Allegan	1.40	14
Missaukee	6.44	8	Ingham	7.60	11	Oscoda	1.81	18	Luce	1.45	10
Branch	6.52	7	Cass	7.81	2	Ontonagon	1.83	2	Ogemaw	1.67	8
Osceola	6.80	11	Saginaw	7.89	11	Clinton	2.04	10	Presque Isle	1.96	22
Ionia	7.88	13	Hillsdale	8.16	2	Missaukee	2.14	41	Baraga	2.00[c]	n.a.
Tuscola	8.07	11	Luce	8.17	6	Luce	2.15	32	Tuscola	2.00	17
Ten fastest growing counties											
Otsego	16.64	32	Missaukee	20.68	26	Midland	2.79	43	Otsego	2.94	38
Monroe	13.30	30	Gratiot	9.68	25	Missaukee	2.14	41	Montmorency	4.65	27
Baraga	16.85	27	Ogemaw	17.86	25	Luce	2.15	32	Washtenaw	2.12	22
Ontonagon	5.20	27	St. Joseph	8.69	25	Alpena	10.15	29	Presque Isle	1.96	21
Clare	16.53	24	Menominee	8.81	23	Eaton	2.52	26	Clare	3.54	19
Ottawa	12.01	24	Lake	19.59	20	Benzie	6.81	26	Dickinson	2.07	19
Roscommon	11.92	23	Livingston	15.45	20	Leelanau	1.77	24	Macomb	2.00	19
Cheboygan	15.93	22	Otsego	14.18	19	Shiawassee	10.79	23	Gr. Traverse	4.95	18
Oscoda	10.06	21	Clinton	12.77	18	Ottawa	4.40	22	Ottawa	2.30	18
Van Buren	11.54	20	Oscoda	13.91	18	Arenac	3.95	21	Sanilac	2.65	18
Michigan	14.20	14	Michigan	8.79	10	Michigan	5.54	12	Michigan	2.88	11
U.S.	17.10	14	U.S.	9.92	12	U.S.	7.72	14	U.S.	5.81	15

SOURCE: Bureau of Economic Analysis, Regional Economics Information System.
a. Earnings in this sector as a percentage of total labor and proprietors' earnings.
b. Percentage change in labor and proprietors' earnings in this sector.
c. Estimated by the author.
n.a.: not available.

The MICHIGAN STATE ECONOMIC RECORD

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Michigan Economic Indicators

Item	Year previous of latest month	Previous month	Latest month
Manufacturing workers:			
Average weekly hours, Michigan	40.2	39.1	41.0 (Mar.)
Average weekly hours, U.S.	39.6	39.5	39.9 (Mar.)
Average hourly earnings, Michigan ($)	9.34	10.11	10.23 (Mar.)
Average hourly earnings, U.S. ($)	7.06	7.74	7.79 (Mar.)
U.S. motor vehicle production (units)	709,650	807,352	808,949 (May)
Michigan electricity usage (mil. kwh.)	6,079	5,718	5,953 (Mar.)
Industrial (mil. kwh.)	2,713	2,624	2,707 (Mar.)
Residential (mil. kwh.)	1,946	1,786	1,840 (Mar.)
Raw steel production:			
Michigan (000 net tons)	803	827	798 (Apr.)
United States (000 net tons)	10,658	11,774	11,243 (Apr.)
Consumer price index (1967 = 100)			
Detroit area	248.2	268.2	272.4 (Apr.)
United States	242.5	265.1	266.8 (Apr.)
U.S. wholesale price index (1967 = 100)	263.7	292.8	293.7 (May)
Michigan farm prices received index (1967 = 100)	226	260	264 (Apr.)

SOURCES: U.S. Bureau of the Census; U.S. Bureau of Labor Statistics; Michigan Crop Reporting Service; Motor Vehicle Manufacturers Association, Inc.; American Iron and Steel Institute; and Energy Information Administration.

Contracts for Future Building, First 4 Months: 1980 and 1981

(Thousands of Dollars)

Area	Nonresidential 1980	Nonresidential 1981	Nonresidential Percentage change	Residential 1980	Residential 1981	Residential Percentage change	Total[a] 1980	Total[a] 1981	Total[a] Percentage change
Ann Arbor	46,191	22,677	− 51	7,500	15,663	+109	53,691	38,340	− 29
Battle Creek	3,546	4,613	+ 30	2,737	4,173	+ 52	6,283	8,786	+ 40
Bay City	1,015	2,618	+158	11,083	1,807	− 84	12,098	4,425	− 63
Detroit	263,980	272,352	+ 3	167,965	135,964	− 19	431,945	408,316	− 5
Flint	28,310	15,319	− 46	8,418	12,561	+ 49	36,728	27,880	− 24
Grand Rapids	71,043	26,366	− 63	35,556	36,960	− 4	106,599	63,326	− 41
Jackson	5,175	7,847	+ 52	2,859	5,376	+ 88	8,034	13,223	+ 65
Kalamazoo-Portage	11,399	13,193	+ 16	10,511	23,812	+127	21,910	37,005	+ 69
Lansing–East Lansing	29,937	13,401	− 55	26,419	32,544	+ 23	56,356	45,945	− 18
Muskegon–Norton Shores–Muskegon Heights	2,785	1,356	− 51	5,696	10,979	+ 93	8,481	12,335	+ 45
Saginaw	21,331	2,544	− 88	6,767	6,385	− 6	28,098	8,929	− 68
Toledo	39,133	71,470	+ 83	37,567	53,853	+ 43	76,700	125,323	+ 63
Michigan	522,543	409,650	− 22	358,946	370,684	+ 3	881,489	780,334	− 11

SOURCE: F. W. Dodge Division of McGraw-Hill Information Systems Company, news releases.

NOTE: Battle Creek includes Barry and Calhoun counties; Detroit includes Lapeer, Livingston, Macomb, Oakland, St. Clair, and Wayne counties; Flint includes Genesee and Shiawassee counties; Grand Rapids includes Kent and Ottawa counties; Kalamazoo-Portage includes Kalamazoo and Van Buren counties; Lansing–East Lansing includes Clinton, Eaton, Ingham, and Ionia counties; and Muskegon–Norton Shores–Muskegon Heights includes Muskegon and Oceana counties.

a. Excludes nonbuilding construction contracts. This category comprises streets and highways, bridges, dams, reservoirs, river and harbor developments, sewerage and water supply systems, missile and space flight facilities, airports, utilities, and communication systems. For Michigan the 1980 and 1981 figures for nonbuilding construction contracts were $218,648,000 and $345,057,000 respectively, or a decrease of 58 percent.

TABLE 4

Michigan Counties Most and Least Affected by Intercounty Commuting to Work: 1979

County	Labor and proprietors' earnings, by county in which received	(Dollar figures in thousands) Residence adjustment	Labor and proprietors' earnings, by county in which earned	Proportion[a]
		Top 10		
Eaton	194,000	392,864	586,864	.670
Clinton	129,916	248,752	378,668	.660
Huron	177,052	11,768	188,820	.623
Livingston	275,043	365,694	640,737	.571
Leelanau	32,359	30,163	62,622	.482
Lapeer	225,961	207,271	433,232	.480
Shiawassee	255,730	216,465	472,195	.460
Monroe	479,288	413,871	893,159	.434
Gladwin	43,365	32,460	75,825	.430
Barry	135,455	96,148	231,603	.420
		Bottom 10		
Genesee	3,943,348	421,674	3,521,674	−.1070
Delta	176,072	−2,036	174,036	−.1156
Kent	3,471,816	−409,517	3,062,299	−.1180
Grand Traverse	362,221	−43,543	318,678	−.1202
Wexford	125,632	−15,872	109,760	−.1234
Wayne	21,333,789	−2,941,850	18,391,939	−.1380
Midland	638,571	−113,519	525,052	−.1780
Washtenaw	2,637,598	−586,814	2,056,784	−.2202
Ingham	2,827,130	−777,431	2,049,699	−.2750
Ontonagon	54,448	−18,347	36,101	−.3370
Michigan	65,838,231	436,762	86,274,993	.0051
United States	1,404,637,000	−412,000	1,404,225,000	−.0003

SOURCE: Bureau of Economic Analysis, Regional Economics Information System.
a. Residence adjustment as proportion of labor and proprietors' earnings received (where positive) or generated (where negative).

County Economic Patterns

(Continued from page 3)

proportion of earnings going to outside residents, it has by far the largest sheer dollar volume.

In the sheer dollar volume of earnings imported, or labor exported, Oakland is first and Macomb second, although in the percentage ranking they are 39 and 19, respectively. These figures merely illustrate what is comcon knowledge—the dependence of Oakland and Macomb residents on Wayne County jobs is not inconsequential. In a relative sense, the greatest such dependence in this state is Clinton's reliance on Ingham.

PROPERTY INCOME AND TRANSFER PAYMENTS

Total personal income is the sum of earnings received and income that entails no labor in return. The latter has two components: property income and transfer payments. Property income is received as dividends, interest, and rent by the owners of capital. The nine Michigan counties that outrank the others in percentage of personal income derived from property, or capital, ownership are all located in the northern Lower Peninsula (see Table 5). It is to these counties that many workers retire when they leave Genesee, Wayne, Macomb, and the other industrial centers. They insulate their summer cottages for year-round occupancy.

Transfer payments include Social Security and other pensions, welfare benefits, unemployment compensation, and other income not linked to current production or to capital ownership. During 1979, Social Security (federal, old age, survivors, and disability insurance) payments in Michigan accounted for 43 percent of total transfer payments; welfare, 15 percent; Medicare, 13 percent; military retirement and veterans' benefits, 6 percent; unemployment benefits, 6 percent; and other items, 17 percent.

Lake County is more heavily dependent on transfer payments than any other Michigan county (see Table 6). It ranks first in welfare benefits as a percentage of personal income (4 percent), and second in Social Security benefits as a percentage of personal income (18.1 percent). The rankings in Table 6 reflect Social Security benefits more than anything else, because they are the major component of transfer payments. Northern Michigan counties rank high in this table for the same reason that they are located at the top of the list in Table 5.

PERSONAL INCOME

The sum of earnings received, property income, and transfer payments is a broad yardstick of the income available to persons. Per capita personal income (see Table 7) indicates how counties fare, on the average, in the acquisition of slices of the national "pie." Oakland County does exceptionally well in this regard because it has high paying industry and because well-paid workers with jobs elsewhere reside there. Macomb ranks second in Michigan for much the same reason. Michigan's other counties with heavy dependence on manufacturing also rank high in per capita income because the majority of those jobs are high paying.

Most northern Michigan counties in the Lower Peninsula have low per capita incomes because a high proportion of their residents are retirees living on accumulated

wealth and pensions. Also, the retail and service industries that cater to them and to summer visitors offer low paying jobs, for the most part. The area provides summer employment for high school and college students as well as for older workers who stay there. A survey of the economic condition of these counties would likely find that the residents of Roscommon, Leelanau, Montmorency, Alcona, Oscoda, Benzie, Emmet, and Antrim counties consider themselves to be well off financially. In contrast, the survey would find a high proportion of the residents of Lake, Ontonagon, Alger, Chippewa, and Osceola counties locked into poverty.

EMPLOYMENT CHANGES SINCE 1979

County earnings and income data for 1980 will be available early in 1982. Until then, employment statistics prepared by the Michigan Employment Security Commission offer the best clues on the decade's economic developments thus far.

During 1980, only sixteen Michigan labor markets experienced job gains over the 1979 level. Those are Alger, Ontonagon, Gogebic, Mecosta, Osceola, Houghton-Keweenaw, Dickinson, Delta, St. Joseph, and Grand Traverse–Kalkaska–Leelanau counties. The big losers were Montmorency, Arenac, Cass, Branch, and Crawford. Except for Crawford, which lost Bear Archery, its major employer, these five were affected by unemployment associated with declines in the manufacture of parts for motor vehicles.

March and April employment figures for 1981 show eighteen markets making job gains so far this year. They are Ontonagon, Delta, Montmorency, St. Joseph, Genesee-Shiawassee, Newaygo, Gratiot, Arenac, Gogebic, Saginaw, Baraga, Hillsdale, Kent-Ottawa, Lake, Ogemaw, Alpena, Clinton, Eaton, Ingham-Ionia, and Bay counties. When the May data are available, they will undoubtedly show job gains in several additional labor markets since there were sizable statewide employment gains following April's good showing. The big losers are Luce, Mackinac, Presque Isle, Missaukee-Wexford, and Montmorency. Luce County is experiencing declining state government employment, with spin-off effects on local merchants. In Mackinac County, state and local governments are declining with similar effects. Presque Isle suffers from declining local government employment plus layoffs in mining. (U.S. Steel takes limestone for its mills and for sale to cement manufacturers.) The data for the Missaukee-Wexford and Montmorency areas are affected by year-to-year changes in automotive related employment.

Linking the March-April 1980–1981 comparisons with those based on 1979–1980 averages yields the figures in Table 8. These show that Ontonagon County exhibited the highest rate of job growth since 1979. Copper Range, a mining company, expanded its activity by installing a refinery to remove silver from the copper produced there. Upper Peninsula Shipbuilding Company is a new enterprise that produces barges to carry freight across Lake Michigan. In Delta County, Mead Paper is expanding its mill. The gain in St. Joseph County resulted from two new General Motors Hydramatic plants in Constantine and Three Rivers. The services and retailing sectors provided the impetus in Gogebic County; manufacturing did so in Montcalm County. White Consolidated Industries, a major producer of large home appliances, has shifted some of its production to Greenville. Alger County enjoyed good growth between 1979 and 1980, but its main impetus was local government, a sector that has slipped somewhat since 1980. Houghton-Keweenaw had growth in services as well as state and local government between 1979 and 1980; however, state and local government employment had slipped in 1981. In Mecosta County, state government was responsible for 1979–1980 growth, and manufacturing is the cause of the poor 1980–1981 showing.

The state's most depressed economies are Montmorency, which has lost almost one-third of its job base since 1979, Luce, Mackinac, Branch, and Oscoda.

WHAT LIES AHEAD?

There are early indications that Michigan's economic recovery is stronger than had been predicted in the December issue of THE MICHIGAN STATE ECONOMIC RECORD. The Flint and Saginaw areas particularly should benefit, followed by Lansing and Bay City. Grand Rapids seems to have its own growth trajectory which was effected tangentially by the economic misfortunes of the automotive industry and the rest of the state. Battle Creek also has its own momentum, but less so than Grand Rapids. As automotive recovery gains momentum, the fortunes of Ann Arbor, Kalamazoo, Muskegon, and Detroit will improve. The economies of Jackson and Benton Harbor seem less resilient.

Reindustrialization of the motor vehicle industry has been slowed due to financial shortages. The original targets probably were unrealistic anyway because of a worldwide shortage of capacity to produce machinery for the new factories. In any case, by mid-decade Michigan is not likely to have as much automotive labor displaced by robots and other machines as most economists had been forecasting; but there also will be a delay in its gaining a competitive edge against Japanese imports. This represents a short-run gain at the expense of longer run viability enhancement, the short run being two years.

Very likely the state will use this breathing room, first to bring in specific new plants that are suited to its resource base, and second to manage its labor redundancy. Specific new factories might include one to manufacture small diesel engines for cars. There is a worldwide shortage of them. Two major producers of larger diesel engines are located here: Continental Teledyne in Muskegon and Detroit Diesel Allison near Detroit. However, prospects for Continental are uncertain after the Army stops buying M60 tanks for which it supplies engines. Perhaps Robert Bosch, world leader in electronic fuel injection, or some other company would be interested in a joint venture.

General Motors Corporation has announced its intention to install 14,000 robots in its factories by 1990. Perhaps GM will be persuaded to make robots in Flint, its own heaviest concentration of industrial activity.

The Detroit-Ann Arbor area hosts a burgeoning hospital-medical industry. There is a natural focus for medical electronics and manufacture of medical instrumentation.

Food processing is a target industry.

The Upper Peninsula has mineral and timber resources ready for exploitation. The only real constraint is electric power.

The northeast lower peninsula has vast unpopulated areas with geological formations ideally suited to storing nuclear waste and other toxic materials. The opportunities for industries that specialize in waste storage and detoxification are boundless.

Michigan's growth prospects are excellent, assuming that we have the imagination and ability to assemble the right packages or incentive for the right combinations of companies, particularly those that are already doing business here. Given that developmental entrepreneurship is the critical resource, and in short supply because it is a relatively young specialty, Michigan faces the likelihood of high unemployment notwithstanding favorable developments during the next two or three years. Perhaps the first order of business should be a study of unemployment and welfare clients with a view toward identifying remedies, such as intensive programs of retraining for jobs located in other states. After all, we in higher education have for decades facilitated the placement of more fortunate young people by providing them with credentials for jobs elsewhere.

TABLE 5

Michigan Counties Most and Least Dependent on Property Income in Total Personal Income: 1979

County	*Percentage*	*Per capita*
	Top 20	
Roscommon	25.8	$1,537
Leelanau	23.3	1,659
Montmorency	22.6	1,379
Alcona	22.2	1,297
Oscoda	21.0	925
Emmet	19.8	1,541
Crawford	19.5	1,107
Benzie	19.3	1,334
Antrim	19.0	1,293
Huron	18.3	1,444
Lake	17.3	987
Ogemaw	17.3	973
Keweenaw	16.8	989
Houghton	16.7	1,033
Cheboygan	16.6	1,096
Mackinac	16.7	1,046
Sanilac	16.4	1,171
Iosco	15.6	969
Presque Isle	15.4	960
Missaukee	15.2	825
	Bottom 10	
Muskegon	10.3	796
Ingham	10.2	982
Clinton	10.1	844
Shiawassee	9.9	840
Lapeer	9.7	768
Macomb	9.7	992
Wayne	9.7	985
Marquette	9.7	712
Genesee	9.6	941
Luce	8.9	668
Michigan	11.6	1,085
United States	14.1	1,235

SOURCE: Bureau of Economic Analysis, Regional Economics Information System.

TABLE 6

Michigan Counties Most and Least Dependent on Transfer Payments in Total Personal Income: 1979

County	*Per capita*	*Percentage*
	Top 20	
Lake	$1,819	31.9
Roscommon	1,887	31.7
Keweenaw	1,857	31.5
Oscoda	1,364	31.0
Montmorency	1,866	30.6
Alcona	1,752	29.8
Gogebic	1,845	27.8
Ontonagon	1,550	26.6
Chippewa	1,514	26.2
Ogemaw	1,465	26.0
Clare	1,523	25.6
Iron	1,624	25.2
Schoolcraft	1,642	25.1
Houghton	1,529	24.7
Crawford	1,296	22.8
Osceola	1,305	22.8
Alger	1,218	22.5
Arenac	1,415	21.9
Gladwin	1,315	21.9
Baraga	1,358	21.6
	Bottom 10	
Kalamazoo	967	10.3
Monroe	875	10.2
Eaton	804	9.2
Washtenaw	949	9.2
Ottawa	751	8.8
Clinton	701	8.4
Midland	777	8.1
Macomb	811	8.0
Livingston	629	7.9
Oakland	893	7.4
Michigan	1,097	11.7
United States	1,141	13.0

SOURCE: Bureau of Economic Analysis, Regional Economics Information System.

TABLE 7

Ranking of Michigan Counties According to Per Capita Personal Income: 1979

County	*Per capita personal income*	*Percentage change 1978 to 1979*	*County*	*Per capita personal income*	*Percentage change 1978 to 1979*
Oakland	12,058	9.86	Barry	7,132	11.75
Washtenaw	10,275	10.89	Leelanau	7,121	−0.47
Macomb	10,177	8.10	Manistee	7,100	11.86
Wayne	10,138	9.94	Montcalm	7,011	10.44
Genesee	9,790	9.59	Ionia	6,965	11.39
Ingham	9,632	12.09	Benzie	6,921	8.97
Midland	9,555	10.05	Mason	6,843	13.16
Kalamazoo	9,369	12.26	Antrim	6,825	10.83
Saginaw	9,221	10.31	Delta	6,654	12.91
Calhoun	9,174	11.15	Gogebic	6,642	11.65
Kent	9,011	13.10	Cheboygan	6,582	13.78
Gd. Traverse	8,843	9.88	Schoolcraft	6,527	17.01
Eaton	8,748	11.54	Menominee	6,525	10.54
Monroe	8,578	10.71	Oceana	6,498	10.34
Lenawee	8,555	12.99	Arenac	6,472	9.31
Ottawa	8,547	12.44	Iron	6,413	11.04

(Continued on page 8)

TABLE 7 (Cont.)

County	Per capita personal income	Percentage change 1978 to 1979	County	Per capita personal income	Percentage change 1978 to 1979
Jackson	8,519	11.04	Baraga	6,305	9.42
Dickinson	8,484	14.14	Presque Isle	6,262	13.63
Shiawassee	8,465	11.50	Newaygo	6,261	8.13
Bay	8,404	10.96	Isabella	6,254	10.45
Branch	8,367	12.64	Mackinac	6,252	12.83
Clinton	8,365	11.19	Iosco	6,205	10.51
St. Joseph	8,280	13.47	Houghton	6,201	12.42
Berrien	8,271	9.89	Montmorency	6,110	10.91
Cass	8,137	8.79	Gladwin	5,989	9.67
Tuscola	7,985	12.23	Roscommon	5,955	13.17
Livingston	7,966	6.25	Clare	5,943	12.07
Huron	7,901	14.47	Keweenaw	5,893	12.96
Gratiot	7,872	10.07	Alcona	5,869	14.67
Lapeer	7,872	7.81	Ontonagon	5,793	15.28
Emmet	7,791	11.84	Chippewa	5,787	13.25
St. Clair	7,770	7.65	Osceola	5,722	12.54
Muskegon	7,718	11.53	Lake	5,697	15.67
Hillsdale	7,664	15.18	Crawford	5,684	3.76
Luce	7,521	14.84	Ogemaw	5,613	16.45
Van Buren	7,499	10.87	Missaukee	5,427	11.69
Allegan	7,448	11.38	Alger	5,439	11.39
Marquette	7,382	9.85	Kalkaska	5,240	9.95
Otsego	7,336	11.59	Mecosta	5,159	11.09
Wexford	7,297	12.97	Oscoda	4,408	7.30
Charlevoix	7,292	12.11			
Alpena	7,201	10.82	Michigan	9,381	10.27
Sanilac	7,158	13.99	United States	8,757	11.61

SOURCE: Bureau of Economic Analysis, Regional Economics Information System.

TABLE 8

Percentage Change in the Number of Wage and Salary Jobs in Michigan Labor Markets: 1979–1981

Labor market	1979–1980	Mar. & Apr. 1980–Mar. & Apr. 1981	1970 to Mar. & Apr 1981
Ontonagon	+ 5.2	+ 7.0	+12.6
Delta	+ 1.1	+ 6.7	+ 7.9
St. Joseph	+ .9	+ 5.6	+ 6.6
Gogebic	+ 4.2	+ 2.2	+ 6.5
Montcalm	− 1.1	+ 5.9	+ 4.7
Alger	+ 5.4	− 1.0	+ 4.3
Kent, Ottawa	− 1.0	+ 1.6	+ .6
Newaygo	− 2.8	+ 3.3	+ .4
Houghton-Keweenaw	+ 2.5	− 2.2	+ .2
Alpena	− .7	+ .8	+ .1
Mecosta	+ 3.8	− 3.8	− .1
Gratiot	− 3.4	+ 3.2	− .3
Baraga	− 2.0	+ 1.6	− .4
Clinton-Eaton-Ingham-Ionia	− 1.7	+ .8	− .9
Osceola	+ 2.8	− 3.8	− 1.1
Isabella	− .2	− 1.2	− 1.4
Washtenaw	− 1.3	− .2	− 1.5
Roscommon	− 1.4	− .2	− 1.6
Grand Traverse–Kalkaska–Leelanau	+ .5	− 2.2	− 1.7
Allegan	− 1.8	− .4	− 2.2
Midland-Gladwin	− 3.2	− .6	− 3.8
Genesee-Shiawassee	− 7.3	+ 3.6	− 4.0
Kalamazoo–Van Buren	− 1.6	− 2.4	− 4.0
Bay	− 4.5	+ .4	− 4.1

TABLE 8 (Cont.)

Labor market	1979–1980	Mar. & Apr. Mar. & Apr. 1980–1981	1970 to Mar. & Apr. 1981
Muskegon-Oceana	− 3.2	− .9	− 4.1
Calhoun-Barry	− 3.6	− .6	− 4.2
Chippewa	− 3.4	− 1.0	− 4.4
Menominee	− 4.3	− .6	− 4.9
Saginaw	− 7.4	+ 1.8	− 5.7
Lake	− 7.3	+ 1.4	− 6.0
Hillsdale	− 7.8	+ 1.6	− 6.3
Lapeer, Livingston–Macomb–Oakland–St. Clair–Wayne	− 5.8	− .8	− 6.6
Alcona-Iosco	− 3.9	− 2.8	− 6.6
Dickinson	+ 1.5	− 8.2	− 6.8
Lenawee	− 6.9	− .2	− 7.1
Mason	− 1.5	− 5.8	− 7.2
Cheboygan	− 3.9	− 3.7	− 7.5
Jackson	− 6.0	− 1.8	− 7.7
Otsego	− 2.4	− 5.8	− 8.1
Tuscola	− 5.7	− 3.4	− 8.9
Ogemaw	−10.4	+ 1.2	− 9.3
Emmet	− 6.5	− 3.2	− 9.5
Iron	− 2.9	− 7.1	− 9.8
Benzie	− 2.7	− 7.4	− 9.9
Sanilac	− 6.7	− 3.4	− 9.9
Arenac	−12.7	+ 3.0	−10.1
Huron	− 7.3	− 3.4	−10.5
Berrien	− 5.9	− 5.4	−11.0
Schoolcraft	− 5.2	− 6.1	−11.0
Clare	− 6.4	− 5.0	−11.1
Missaukee-Wexford	− 2.7	− 9.2	−11.7
Charlevoix	− 9.1	− 3.6	−12.1
Marquette	− 5.8	− 7.0	−12.4
Manistee	− 4.3	− 8.6	−12.5
Cass	−11.9	− 1.0	−12.8
Antrim	− 5.4	− 8.8	−13.7
Crawford	−11.3	− 4.0	−14.8
Presque Isle	− 5.6	−10.0	−15.0
Oscoda	− 9.3	− 8.0	−16.6
Branch	−11.4	− 7.6	−18.1
Mackinac	− 7.4	−11.6	−18.1
Luce	− 3.3	−16.7	−19.4
Montmorency	−23.5	− 8.9	−30.3
Michigan	− 5.0	+ .2	− 4.8

SOURCE: Developed from Michigan Employment Security Commission, special release.

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